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NEA Research Division experimenting with

Small-Sample Techniques

THE EVER INCREASING need for information has made it necessary to streamline the sampling methods of the NEA Research Division. Consequently, the Division staff is engaged in an intensive two-year project to evaluate, improve, and simplify its sampling procedures.

A year of experimentation with small-sample techniques has clearly shown that this approach is the key to doing more in less time in the future. This article describes briefly how these techniques are being developed and used in teacher opinion polling.

How Small a Sample?

How small a sample will give a true picture of the opinions of 1.3 million classroom teachers? This depends on the degree of accuracy and confidence desired. The Research Division set as a *minimum* standard a sample of sufficient size to give an accuracy of $\pm$ 5 percentage points with a level of confidence of 90 percent. This means the chances should be at least 9 in 10 that the answers reported in the teacher opinion polls do not vary more than 5 percentage points from the true opinion of all teachers.

In determining sample size, these minimum standards must be applied to the smallest subgroup of teachers for which data are desired. The Research Division wanted to determine the separate opinions of teachers in the following groups: (a) men and women teachers, and (b) elementary- and secondary-school teachers. Since men teachers constitute the smallest of the subgroups, this category was used in establishing the size of the total sample of teachers. It was estimated (1958-59) that *at least* 26.4 percent of all classroom teachers were men.

This information was used in the following formula to determine how many men teachers must be included in the sample so that the level of confidence and degree of accuracy will meet the required standard:

$$(1)\quad n = [\chi^2 N \pi (1-\pi)] \div [d^2 (N-1) + \chi^2 \pi (1-\pi)]$$

where n = the required sample size

χ^2 = the table value of chi-square for 1 degree of freedom and desired confidence level (2.706)

N = the population size (approximately 341,000 men teachers)

π = the population proportion which it is desired to estimate (assumed to be .50 since this would provide the maximum sample size)

d = the degree of accuracy expressed as a proportion (.05).

The computation of the formula (1) shows that a sample of 271 is sufficient to draw conclusions about the separate opinions of men teachers, with a confidence level and accuracy which meet the minimum standards. To determine the total sample size, the requirement for men teachers was merely substituted in a simple ratio to allow for the proportionate number of women teachers. Thus, a total estimated sample of at least 1026 classroom teachers, 271 men plus 755 women, meets our requirement.

Which Teachers To Poll?

Once the minimum size of the sample had been determined, the next problem was which teachers should be selected. When sampling with equal probability,

every classroom teacher must have an equal chance of being selected in the sample. This would be a simple matter if a list of names of all the 1.3 million teachers in the country were available. A random start could be made, and a systematic sample of names could be drawn from the list which would result in the equivalent of a random sample.

Since no such list of names was available, a two-stage sampling process was used to achieve a similar result. First, a sample of school districts was selected; and second, a sample of teachers was drawn from within those districts.

A survey, made by the U. S. Bureau of the Census in the school year 1956-57, listed 43,539 districts that were operating schools. These districts vary greatly in size from the 24,521 districts having fewer than five teachers each, with a total of 37,013 teachers, to the 31 largest districts having 2500 or more teachers (40,000 in the largest) with a total of 183,625 teachers. To reduce the effect of this great variation in size of school district, school districts were stratified according to the number of teachers in each district. The eight strata into which the districts were grouped are shown in Table 1.

The U. S. Bureau of the Census maintains the only complete list of operating school districts in the country. Although the information for this list was originally collected in school year 1956-57, it is updated whenever a state takes major steps in school district reorganization. The list constitutes the best frame available for sampling purposes.

The Research Division contracted with the Bureau of the Census to select a random sample of 31 school districts from each of the eight strata, making a total of 248 districts. Since Alaska and Hawaii were not in the Bureau of the Census list, a district from each of these two states was added, making a total of 250 school districts in the sample.

In November 1959, the Research Division sent a letter to each of the 250 superintendents requesting a list of the names and school addresses of their teachers. Useable information was received from 243 of the 250 school districts. Four of the remaining seven districts were no longer operating schools.

Selecting the Teachers

The second step in the two-stage sampling process was the selection of

1—NUMBER AND SIZE OF SCHOOL DISTRICTS AND NUMBER OF TEACHERS

Stratum	Size of districts by number of teachers	Total number of districts (1957)	Total number of teachers (1957)
I	2 500 or more	31	183,625
II	1,000–2,499	68	104,130
III	500–999	166	112,099
IV	200–499	827	246,021
V	50–199	3,949	375,705
VI	10–49	9,954	224,518
VII	5–9	4,023	27,575
VIII	1–4	24,521	37,013
Total	....	43,539	1,310,686

Source:
Information supplied by U. S. Bureau of the Census to the NEA Research Division.

the individual teachers to receive questionnaires. To assure that every teacher had an equal chance of being selected in the sample, the following process was used.

An estimated sample size of 1026 from a teacher population of 1.3 million teachers would mean each teacher should have one chance in 1277 (1,310,000 ÷ 1026) of being selected in a given sample. The chances of a teacher's district being selected (d), times the chances of the teacher being selected from the teachers within his district (t), equals the over-all chances or probability (p), of his being selected from all the teachers in the nation. Hence the formula for the over-all probability of selection in this two-stage sampling process is:

(2) $d \times t = p$

Table 2 gives the basic figures used in the application of this formula to teachers in each of the eight strata.

To illustrate how the formula is applied: Stratum I, which contains districts with 2500 or more teachers, consists of 31 districts plus Hawaii,[1] and all 32 are arbitrarily included in the sample of districts. Since teachers employed in these districts have a 1 in 1 chance of having their district selected, 1 teacher in every 1277 was included in the sample.

Stratum V, which contains districts with 50 to 199 teachers, consists of 3949 districts, but only 31 of these districts, were taken for the sample, or 1 in 127. Therefore, teachers in districts of this size have only 1 chance in 127 of having their district selected. Within these districts, then, approximately 1 teacher in 10 was included in the sample to provide an over-all chance of selection of 1 in 1277 for teachers in districts of this size.

In other words, 31 school districts were selected from each of the eight strata. As the districts' chances of selection within their particular stratum decreased, a greater proportion of teachers was chosen from the selected

[1] Public schools in Hawaii are administered as a single school system, making it necessary to include the whole state in the sample.

2—SAMPLING RATES, DISTRICTS AND TEACHERS

Stratum	Number of districts, 1957	Sampling rate for districts	Number of districts selected for sample	Number of teachers in selected districts, 1957	Sampling rate for teachers	Expected sample size[a]
I	32[b]	1:1	32[b]	183,625	1:1277	144
II	68	1:2	31	48,015	1:582	82
III	166	1:5	32[c]	21,871	1:246	88
IV	828[d]	1:26	32[d]	8,993	1:49	193
V	3,949	1:127	31	2,931	1:10	294
VI	9,954	1:332	30[c]	773	1:4	176
VII	4,023	1:130	31	205	1:10	22
VIII	24,521	1:791	31	46	1:2	29
Total	43,541	.....	250	266,459	.....	1,028[e]

Source:
Columns 2 and 5 from the U. S. Bureau of the Census. Other columns computed by the NEA Research Division.
[a] Number of teachers, as given in Table 1, divided by 1277.
[b] Includes Hawaii, which is a single school district.
[c] One district shifted from Stratum VI to Stratum III because of misclassification.
[d] Includes one district in Alaska.
[e] The discrepancy between 1,026 and 1,028 is due to rounding.

districts. Thus, the over-all sampling rate of 1 in 1277 was maintained.

After the sampling rate for each stratum had been determined, a table of random numbers was used to select from the lists of teachers the appropriate number of names of teachers to be sent questionnaires.

Questionnaires and Responses

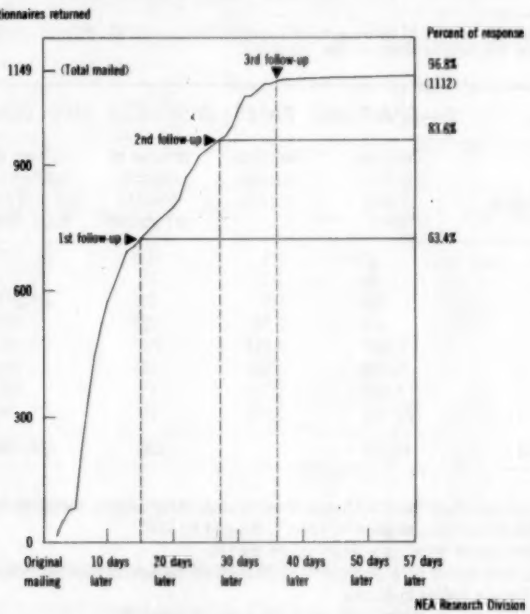
The first two Teacher Opinion Polls were mailed to different groups of teachers early in 1960 (February 23 and March 29). Each group consisted of 1149 teachers.[2] The questionnaires consisted of 10 opinion questions plus 11 status questions on such items as age, sex, and grade or subject taught.

Each questionnaire was mailed with a personally typed letter explaining the purpose of the poll and the importance of the teacher's response. Personally typed follow-up letters were sent airmail to teachers who had not responded at the end of two weeks. A wire was sent to teachers who had not responded after four weeks, and another was sent to the few remaining at the end of five weeks. This intensive follow-up resulted in a return of 97 percent of the questionnaires in the first poll and a return of 95 percent in the second, all within two months of the original mailing dates. Figure 1 shows the pattern of response for the first poll.

Small-sample techniques enabled the NEA Research Division to maintain very careful checks on the nonresponse group. For example, of the 1149 questionnaires mailed in the first opinion poll, only 37 persons failed to return a questionnaire. The reasons for the

[2] The increase in sample size above the estimated minimum of 1026 is a result of three factors: (a) the increase in teacher population, (b) rounding, and (c) sample size variance. A technical paper on sample size variance is being prepared for publication.

PATTERN OF RESPONSE TO OPINION POLL #1



nonresponse of 15 of the 37 were identified: critically ill, deceased, or moved and address unknown. In only 22 cases, or 1.9 percent of the total, was the reason for nonresponse not determined. The major categories (sex and school level) to which all 37 nonrespondents belonged were identified. It could be stated that for practical purposes the nonresponse error was eliminated.

Validity of the Sample

Regarding the accuracy of findings, small-sample techniques have two basic advantages: by making possible intensive follow-up procedures they reduce the effect of nonresponse bias, and they tend to reduce nonsampling errors occurring in processing larger quantities of data.

Two types of tests were made to determine whether the samples of teachers selected in the polls were adequate to represent the 1.3 million classroom teachers in the country.

Inter-poll comparisons—One test was a comparison of the answers to the status questions given in the two polls. Here are the results of some of the comparisons:

1. *Age of teachers*—The average age of teachers in Poll #1 was 40.76 years; in Poll #2, 40.76 years, with a maximum possible difference of about four days. (The confidence limits are identical at the 95-percent level.)

2. *Teaching experience*—Teachers in Poll #1 had an average of 14.16 years of experience as teachers; those in Poll #2, 14.31 years, a difference of about six weeks of teaching experience. (The confidence limits overlap at the 95-percent level.)

3. *Number of pupils taught*—The total number of pupils taught per day by teachers in secondary schools in Poll #1 was 131.71; in Poll #2, 126.62. (The confidence limits overlap at the 95-percent level.)

Comparisons with accepted data—The second type of test made was a comparison of data obtained from the samples with certain accepted data obtained from the *Estimates of School Statistics, 1959-60*.[3] Here are the results of these comparisons:

1. *Sex of teachers*—The sex distribution in the two polls (Poll #1, 29.0 percent men; Poll #2, 27.3 percent men) did not differ significantly from the 27.6 percent of men reported in *Estimates of School Statistics, 1959-60* (Confidence interval for men at 95-percent level: Poll #1, 26.5-31.5; Poll #2, 24.6-30.1.)

2. *Regional distribution*—The distribution of respondents in the two polls according to the seven major geographic regions of the country did not differ significantly from the regional distribution of teachers given in the *Estimates of School Statistics*. (Chi-square not significant at .95 level and 6 degrees of freedom.)

In general, statistical tests show with 95-percent confidence that insofar as the status questions are concerned, the teachers in Poll #1 did not differ significantly from the teachers in Poll #2, nor did the teacher status data differ significantly from comparable data in the *Estimates of School Statistics*. Thus, we have added confidence in the conclusion that the teachers selected in the sampling process truly represented the 1.3 million classroom teachers.

Accuracy of Opinion Data

The important question is, How accurate are the opinion data reported in

[3] National Education Association, Research Division. **Estimates of School Statistics, 1959-60.** Research Report 1959-R23. Washington, D. C.: the Association, December 1959. 31 p.
Note: These estimates are made annually by the NEA Research Division and sent to the chief state school officers in the 50 states for verification or change. Consequently, the estimates actually are the chief state school officers' estimates of the school statistics as of October of the current year.

the teacher opinion polls? As was stated in the beginning, the *minimum* standards are a degree of accuracy of ± 5 percentage points with 90-percent confidence. These minimum standards are exceeded in the reported findings of the polls. The answers to the following question asked in the first poll illustrate how the accuracy varies above the standard.

> Do you believe that proper emphasis is being placed on interscholastic athletics, such as football and basketball, in the secondary schools of your community?
>
> ☐ Too much emphasis
> ☐ Too little emphasis
> ☐ Emphasis about right
> ☐ Don't know

Using standard statistical procedures, we find approximations of the true limits of the population confidence interval about the sample estimate from the following formula:

$$(3)\ \pi = \frac{(\chi^2 + 2np) \pm z(\chi^2 + 4npq)^{\frac{1}{2}}}{2(\chi^2 + n)}$$

where π = the population proportion
p = the sample proportion
n = the sample size
χ^2 = the table value of chi-square for one degree of freedom at the desired level of confidence
z = the normal deviate corresponding to the given level of confidence
$q = 1 - p$

When the formula above is applied to the answers given to this question by all respondents, we can be 90-percent certain that the true opinions of all teachers lie within the following limits:

	Percent of all respondents	90% confidence limits of true opinion of all teachers
Too much emphasis	33.8%	31.4 - 36.3%
Too little emphasis	3.1	2.3 - 4.1
Emphasis about right	51.5	48.9 - 54.1
Don't know	11.6	10.1 - 13.3

When the formula is applied only to the answers received from men teachers, who comprise approximately one-fourth of all classroom teachers, we can be 90-percent confident that the true opinions of men teachers on this question lie within the following limits:

	Percent of men respondents	90% confidence limits of true opinion of all men teachers
Too much emphasis	37.0%	32.6 - 41.6%
Too little emphasis	4.8	3.2 - 7.2
Emphasis about right	55.0	50.3 - 59.6
Dont know	3.2	1.9 - 5.3

When we consider the answers of secondary-school teachers, who comprise approximately one-third of all class-room teachers, we can state with 90-percent certainty that on this question the true opinions of the group lie within the following confidence limits:

	Percent of secondary-school respondents	90% confidence limits of true opinion of all secondary-school teachers
Too much emphasis	40.4%	36.8 - 44.1%
Too little emphasis	3.8	2.6 - 5.5
Emphasis about right	52.3	48.5 - 56.0
Don't know	3.5	2.4 - 5.2

The Future

This discussion has endeavored to describe in general terms an example of the small-sample techniques being refined and incorporated into the operation of the NEA Research Division. The experimental sampling project is still in process. A full report of the findings will be issued at the end of the project.

Duty-Free Lunch Periods —*a break for teachers*

Five states guarantee time off duty for elementary-school teachers

WHICH IS MORE VALUABLE to a pupil, having the teacher's guidance during the lunch hour or having a teacher refreshed and ready to teach afternoon classes? This is a question being hotly debated in many elementary schools, and both sides present convincing arguments.

In a 1958-59 study of administrative practices in urban school districts, the NEA Research Division found that only 12 percent of the urban districts having elementary grades provide duty-free lunch periods for the classroom teachers in elementary schools.

This practice was reported by one-fifth to one-fourth of the largest districts (100,000 and over in population), but less than one-tenth of the smallest districts (under 10,000 in population).

In nearly three-fourths of the districts, teachers are on duty during the lunch period only on certain days; they take regular turns supervising the pupils in the lunchroom. In 14 percent of the districts, teachers are on duty every day during the lunch hour.

Supervision of Pupils

Of the 12 percent of districts which give elementary-school teachers a free lunch hour, a little more than half are able to do so by merely insisting that all pupils go home for lunch. Of the remaining districts about half arrange for clerical or other school personnel to be in charge. Sometimes the principal supervises the lunchroom while classroom teachers have their lunch apart from the children. This leaves about one-fifth of the 12 percent, or about 2½ percent of the school districts reporting, which allow the pupils to remain at school for lunch and employ special teachers or teacher-aides.

Nonprofessional Personnel

The lay workers employed especially for lunchroom duty are given such titles as lunch matron, noon mother, or dining-room aide. They may be parents, housewives, or college students. They may be in complete charge of the lunchroom, or they may assist certificated staff members.

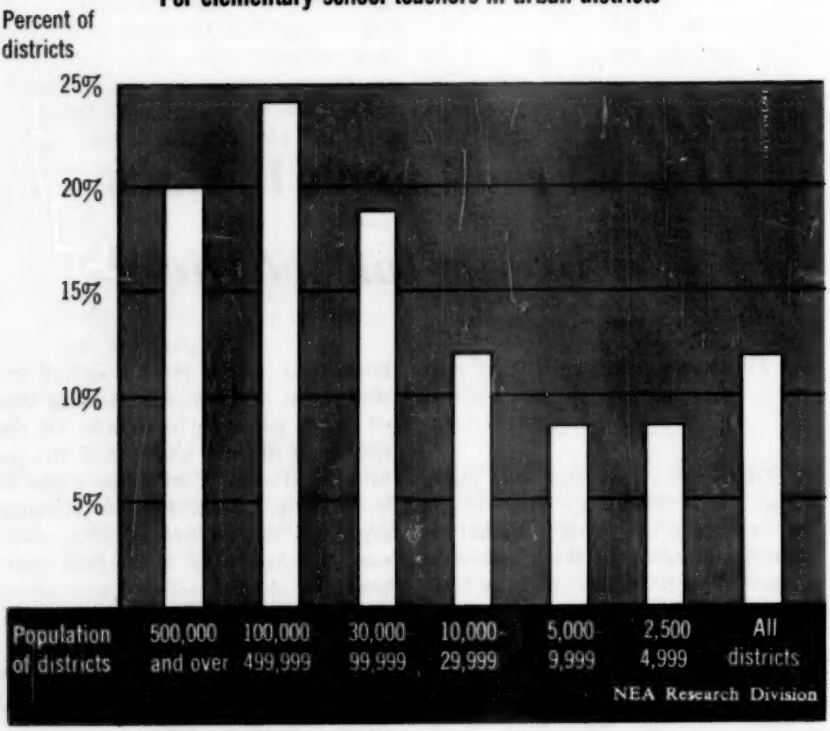
Rates of Pay

In some school districts, classroom teachers may volunteer for lunchroom duty—with extra pay. Rates may be hourly, from $1.30 to $3, or annual, from $200 to $400.

School districts which employ lay workers for lunchroom duty pay widely varying rates—from $1.05 to $3 an hour, sometimes including free lunches.

DUTY-FREE LUNCH PERIODS

For elementary-school teachers in urban districts



Some school districts, particularly in California, have listed specific duties, safety rules, type of dress to be worn, and suggestions for handling discipline problems. These districts often require these lunchroom workers to have leadership experience, especially with children. Other requirements may include American citizenship, a loyalty oath, a chest X ray, and references.

State Laws

California, Illinois, Massachusetts, and Ohio have legislation which prescribes a duty-free, minimum lunch period for classroom teachers. A Pennsylvania law, which is enforced by the State Department of Labor and Industry, applies to all women employed for more than five hours a day.

The Ohio law reads as follows:

Each teacher employed by the board of education of a school district shall be granted at least thirty minutes for lunch each school day, during which time he shall not be required to perform any school activity; except that in a one-teacher school where enforcement of the foregoing provisions may work a hardship, the county board of education of the school district in which the one-teacher school is located may require the teacher to remain on duty.

The granting of the lunch period to a teacher shall not be cause for lengthening the school day. (*Page's Ohio Revised Code*, sec. 3319.111.)

For further details see: National Education Association, Research Division and American Association of School Administrators. *Noon-Hour Procedures in Elementary Schools.* Educational Research Service Circular No. 6, 1960. Washington, D. C.: the Association, August 1960. 17 p. 75¢.

Paying for Schools Is Everybody's Business

Excerpts from the
Third National Conference
on School Finance Problems

FINANCE IS ESPECIALLY important when it can serve important human needs. Education is one such important human need. Therefore, the development of financial policy in relation to public education demands that teachers and lay citizens discuss the issues with understanding.

Keeping Informed

Teachers have recognized for some time their own responsibility for gaining economic literacy. Therefore, in 1938, through the Representative Assembly of the National Education Association they brought about the creation of the Committee on Tax Education (in 1941 renamed the Committee on Tax Education and School Finance).

For many years the Committee pursued this gigantic task with very modest means, publishing the results of its efforts in the *NEA Journal* and in special pamphlets.

The recent expansion in the NEA program included the work of the Committee. An early casualty to expansion was the name—this NEA group is now the Committee on Educational Finance. With energy renewed, the Committee has stepped up its publication schedule, has sponsored three national conferences on school finance problems, has experimented with producing audio-visual materials, and currently is trying out a reporting service.

The focus of this expansion is still in most respects the classroom teacher. But some committee activities also begin with and are for finance experts, and some Committee materials are useful to groups of lay citizens.

These introductory paragraphs acquaint the reader of the *NEA Research Bulletin* with the NEA Committee on Educational Finance. The succeeding paragraphs present a few of the high lights from the papers presented to the Third National Conference on School

Finance Problems held in St. Louis on April 21-22, 1960, and as reported in the Committee's most recent publication, *New Directions in Financing Public Schools.*

The Central Issue

School finance, of course, is not an issue in itself. The elements of public education envisioned, however, are an issue. Arthur F. Corey, executive secretary of the California Teachers Association, included the following specifics within the definable limits of public education:

> Every American child should receive nine years of elementary education, including a year of kindergarten. Virtually every child should receive four years of high-school education, and junior or community colleges should offer two additional years of education to all who desire it. The school year should be at least 180 days for all and should be supplemented by an additional summer session of at least 25 days for those who wish to attend. Any American, at any age, should find academic, vocational, and recreational opportunities through free adult education in the public schools.
>
> Every classroom should be staffed with a competent, well-trained teacher. Adequate counseling as well as medical and psychiatric services should be provided at all levels. School buildings should be functional, safe, healthful, and beautiful.
>
> Special programs should be provided for the retarded, the gifted, the deaf, the blind, and [others] seriously handicapped. These programs must have specially prepared teachers and the appropriate special equipment without which the unique needs of these groups cannot be met.

George E. Watson, Wisconsin state superintendent of public instruction, spoke on the same topic as did Corey. Here is Watson's statement of the issue:

> Do we or do we not believe in this American pattern of free, universal education? Do we or do we not bend our efforts toward improving our accomplishments with each segment of this elementary- and secondary-age group? Do we or do we not devise new concepts and procedures to make schooling available, challenging, and worthwhile to all in these age groups? Do we believe in free universal elementary and secondary education or are we willing to give up this American dream? Let us keep the issue clear in this next decade. Let us not accept any fogging of the issue by any individual or group. . . .
>
> Let us be sure that our focus brings out in crystal-clear outline the fact that if, for any one of a variety of reasons, we cease in our historic pursuit of this philosophy, by that act we are changing a pattern of life, a pattern of employment, a standard of living, and a dream of America. . . . All the trends and all the issues of education are undertones of the challenge of the hour. How much significance do we attach to the maintenance of our program of universal elementary and secondary education and its improvement? All other issues fit into this question. All trends are toward or away from this objective. All actions and attitudes will make this objective more difficult or more possible.

State and Local Finance

The activities of the Committee on Educational Finance are focused primarily upon state and local problems. Frederick L. Hipp, executive secretary of the New Jersey Education Association, discussed some school finance problems in New Jersey. Speaking of local school budget defeats, Hipp said:

> In growing communities still small enough to get excited about specifics, the proposed addition of services personnel, such as a vice-principal or an assistant superintendent of schools, can cause a budget defeat. The proposed position may not be sufficiently explained, or the issue may be used by those who have other motives.
>
> This may be merely a special case of the growing pains we suffer so often in my state as rural Jersey becomes suburbia or exurbia. When Park Lawn Manor rises in a stable community which has been happy for 50 years with its simple uncomplicated schools and the established citizens are suddenly confronted with psychiatry-oriented fugitives from Madison Avenue demanding psychological services for their young, it is not merely a budget but a whole culture that is in conflict. The budget, however, becomes the barricade at which the embattled farmers hurl paving blocks against the machine guns of progress.

Despite the dark spots, Hipp commended the New Jersey citizens for their local support of schools. The flaws are on other governmental levels:

> We have no complaints about the efforts of our people to support schools on the

local level. Not only has New Jersey just about the highest real estate taxes in the nation, but our schools naturally get the lion's share of the money raised. Within the limited resources of our inadequate state budget, a rather high percentage—more than one-third—is devoted to education. This unbalanced combination of local and state revenues has made it possible for New Jersey to support nearly the highest per-pupil cost in the nation, among the top average salaries, a good pension system, low average class size, and other features that help to measure a people's aspirations to provide education for their children.

There are flaws in this picture, of course. We have too many teachers who do not fully meet the normal minimum requirements for certification and too many children on split sessions receiving a part-time education. With 40,000 additional children coming into our schools each year, the situation will get worse before it gets better.

Hipp outlined the frustration that arises in arguments over what school finance measures to enact. Each type of tax has its supporters:

Probably, almost certainly, there is no "perfect" tax structure to support schools. Our neighbors in Delaware are just starting a survey to see if they have too much state aid. We, in New Jersey, are sure we place too much emphasis on the real estate tax. In New York, Governor Rockefeller has suggested the need for more aid to cities with large groups of citizens showing a cultural lag. My business friends tell me that the federal government has pre-empted the income tax to a degree where its use by a state or local government verges on the immoral. Labor leaders repeat over and over the shibboleth that the sales tax is regressive, while their followers indicate in opinion polls that they would accept it more readily than they would accept a state income tax.

Allen M. West, secretary-treasurer of the Utah Education Association, reported on another type of problem as encountered on Utah's capitol hill:

It is a well-known principle of social behavior that the public does not anticipate emergencies, it reacts to them. We have been in an emergency so long that we are becoming accustomed to it. Repetition has a sedative effect.

It is getting more and more difficult to sustain interest in the school "emergency."

West maintained, too, that financing public elementary and secondary education cannot be isolated from financing higher education. However, this need not lead to competition between levels:

Within the next few years the impact of increased birth rates of the early 1940's will be felt on the college and university campuses. Obviously, increased enrollments are going to require sharp increases in both capital outlay and operating budgets for higher education. I do not see this need for more revenue as competition, any more than the need for junior high schools and high schools in the present period is competition with elementary education. It is not a question of how we shall slice the state revenue pie. The question is how to find enough revenue to bake a large enough pie to meet the total needs of the educational program.

I am not naive enough to think that efforts will not be made to play the needs of higher education against those of the elementary and high schools. Spokesmen for all branches of education must stand together for a strong program of education from the kindergarten to the graduate school. Obviously, this is easy to say but difficult to achieve. The independence and the competition among higher institutions themselves complicate our problem of achieving a united front. However, the expanding needs of higher education can be an effective supplement and add emphasis to the case for more revenue for elementary and high schools if we have the skills to coordinate our efforts effectively.

Teaching Translated into Dollars

Many groups and individuals have projected the costs of public education for at least a decade ahead. It is not necessary here to review these projections to appreciate the magnitude of the cost. But it is necessary to understand the interrelationships of all levels of government if the challenge is to be met.

Stephen J. Knezevich, associate professor of education at the State University of Iowa, generalized from the demands on public schools in terms of enrollments, prices, and quality teaching:

At present a nineteenth century pattern of financing dominates twentieth century educational institutions facing problems of a magnitude and complexity never envi-

sioned in the nineteenth century and barely comprehended at present. . . .

One does not have to be too bold under these circumstances to predict that there will be changes in present systems of financing education. Sooner or later everything we do must be translated into dollars and cents. Without adequate financial resources, schools would find it difficult, if not impossible, to realize the demands and objectives of the period.

After a careful analysis of local and state prospects for financing schools, Knezevich asserted:

The question remains of how desperate the financial situation must become before the attitudes and emotions which preclude the greater utilization of national resources for public education are dissipated. In the years ahead, federal support will be a continuous rather than a crash program. It will be general support for the over-all improvement of quality rather than as highly specific as it has been in the past, when one aspect of the school fared fairly well but the remainder starved or limped along. When the political aspects of federal participation have been spent, the federal support programs will be foundation-program oriented as well.

Corey concluded that by 1970 the public schools would need $15 billion in new support if they are to discharge their obligations. The implication, he said, is:

It should be obvious that this situation establishes a problem which cannot be met unless we are willing to re-examine all our cherished concepts in school finance. Wishful thinking must be supplanted by facing the hard facts. There has been at least a modicum of mythology and folklore in our past considerations of these problems. There has been such frantic pressure to meet the immediate financial demand that few competent technicians have really applied themselves to projecting apparent trends and developing new concepts to meet developing conditions.

The dramatic immensity of the goals we vision will certainly discourage the timid, but fortunately it will inspire others with its challenge. The nearer we approach the objective, the nearer the public schools can come to fulfilling their responsibilities. One conclusion seems certain. The future financial needs of the public schools in America cannot be met if leadership persists in continuing a "business as usual" attitude. This is a national problem and will not be solved by states and communities acting independently. Substantial federal assistance is imperative and inevitable.

Political Action Needed

Forrest Rozzell, executive secretary of the Arkansas Education Association, called for political action on the finance problem. He had several suggestions for where and how this should take place:

When state and local associations become as interested in and concerned about legislative action at the national level as they are now at the state level and use with equal vigor and determination, in their dealings with members of Congress and the national administration, the effective procedures they now use in dealing with members of state legislatures and state administrations, the profession of education will no longer be treated with contempt and indifference at the national level.

Is there anyone who sincerely believes that the United States, the richest country in the world, cannot afford an educational system worthy of its children? Is there anyone who really believes that we do not have the money to provide the kind of educational system that is essential to our survival? The answer is obvious.

The needs of American [public] education will continue to rise beyond the limits of the ability of state and local tax structures to satisfy. The demand that something be done by the federal government will continue to increase. Something is going to be done! Will it be through a large-fund, broad-purpose measure which will allow the states freedom to apply federal funds in any proportion they see fit to the construction of school facilities and the staffing of schools with qualified teachers, or will it be through measures which will provide categorical aids with no real strengthening of the total educational program and with the very real danger of federal influence on the favored aspects of the school program?

Teachers as responsible citizens in a democratic society have no choice but to roll up their sleeves and get into the arena where the decisions are going to be made—the political arena—and see that educational legislation enacted by Congress is consistent with sound educational philosophy, goals, and methods.

For the papers presented at the Third National School Finance Conference, see: National Education Association, Committee on Educational Finance. *New Directions in Financing Public Schools.* Washington, D. C.: the Association, 1960. 143 p. $1.

State-Local Taxes and You

On the average, these taxes require $8.49 out of each $100 of personal income

STATE-LOCAL TAX collections increased $1,999 million from $30,380 million in 1958 to $32,379 million in 1959. At the same time federal tax collections decreased $750 million, from $68,007 million to $67,257 million, reflecting the 1958-59 economic recession. The increases in state and local tax collections more than offset the decreases in federal tax collections, bringing the total of federal, state, and local tax collections for general revenue purposes to $99,636 million. In the fiscal year ending in 1959, state and local tax collections comprised 33 cents of each total tax dollar.

State-Local Tax Sources

In 1959, state and local governments levied a variety of taxes. However, taxes on property, sales, and income comprised 88 percent of the total tax collections.

- The general property tax supplied $14,983 million, or 46.3 percent.
- Sales and gross receipts taxes supplied $10,437 million, or 32.2 percent.
- Income taxes on individuals supplied $1,994 million, or 6.2 percent.
- Income taxes on corporations supplied $1,001 million, or 3.1 percent.

$1 Billion or More in Nine States

State comparisons of state and local tax collections in 1959 illustrate wide differences among the states in amounts of taxes levied by states and their local governments, including school districts. Total state-local tax collections amounted to more than $1 billion in nine states: New York ($4.2 billion), California ($3.9 billion), Illinois ($1.8 billion), Pennsylvania ($1.8 billion), Michigan ($1.6 billion), Ohio ($1.6 billion), Texas ($1.4 billion), Massachusetts ($1.2 billion), and New Jersey ($1.2 billion). These states were also the nine largest states in population, accounting for 57.1 percent of the total state-local tax collections, 51.4 percent of the total population, and 58.1 percent of the total personal income.

Total state-local tax collections amounted to less than $100 million in six states: Alaska, Delaware, Nevada, New Hampshire, Vermont, and Wyoming. These six states accounted for 1.3 percent of the total collections of all states, and had 1.3 percent of the total population and 1.4 percent of the personal income. Hawaii is not included in the state figures for 1959.

Per-Capita Tax Collections

Differences because of size of population are eliminated from state comparisons by dividing the state-local tax collections by the state population. States with both high and low populations are included among the five having the highest per-capita state-local tax collections—California, New York, Nevada, Massachusetts, and Wyoming. The five states with the lowest per-capita tax collections are all located in the South—South Carolina, Kentucky, Alabama, West Virginia, and North Carolina.

Taxes per $100 of Income

The relation of tax collections to personal income is frequently used as a

1—TAX COLLECTIONS OF STATE AND LOCAL GOVERNMENTS, 1959

State	Total state and local tax collections (millions)	Per-capita state and local tax collections		State and local tax collections per $100 of personal income	
		Amount	Rank of state	Amount	Rank of state
49 States and D. C.	$32,378.9	$183.59	....	$ 8.49	....
Alabama	355.4	111.31	48	7.71	39
Alaska	33.8	176.96	26	6.08	50
Arizona	229.6	186.21	19	9.62	13
Arkansas	212.9	122.08	45	8.98	26
California	3,872.5	264.53	1	9.50	16
Colorado	373.2	221.88	6	9.99	10
Connecticut	487.2	201.74	13	7.06	44
Delaware	84.8	186.78	18	6.45	49
District of Columbia	155.3	184.88	20	7.03	45
Florida	837.9	175.99	27	9.04	25
Georgia	511.8	133.35	41	8.42	29
Idaho	114.5	172.44	31	9.65	12
Illinois	1,795.9	175.98	28	6.98	46
Indiana	782.1	168.63	33	8.05	35
Iowa	529.0	188.32	17	9.80	11
Kansas	452.6	211.50	8	10.68	6
Kentucky	345.0	110.40	49	7.59	41
Louisiana	581.0	183.51	22	11.24	4
Maine	162.3	171.02	32	9.48	17
Maryland	559.6	184.63	21	7.87	36
Massachusetts	1,152.7	232.82	4	9.31	20
Michigan	1,566.2	196.76	15	8.95	27
Minnesota	687.0	202.12	12	10.32	8
Mississippi	267.2	122.29	44	10.57	7
Missouri	610.6	143.91	40	6.60	48
Montana	143.6	209.02	10	10.90	5
Nebraska	229.3	157.49	38	8.20	32
Nevada	68.5	244.64	3	9.11	23
New Hampshire	99.4	167.91	35	8.28	31
New Jersey	1,183.6	199.60	14	7.67	40
New Mexico	152.8	173.83	29	9.09	24
New York	4,169.3	252.76	2	9.24	22
North Carolina	552.2	121.90	46	8.16	34
North Dakota	116.7	181.78	24	12.01	2
Ohio	1,557.6	160.58	36	7.09	43
Oklahoma	383.8	168.63	34	9.28	21
Oregon	361.1	204.47	11	9.40	18
Pennsylvania	1,792.1	158.27	37	7.25	42
Rhode Island	156.2	178.51	25	8.50	28
South Carolina	263.6	109.06	50	8.37	30
South Dakota	125.3	182.39	23	12.28	1
Tennessee	437.8	125.05	42	8.17	33
Texas	1,400.1	147.18	39	7.76	38
Utah	152.7	173.52	30	9.39	19
Vermont	78.5	211.02	9	11.31	3
Virginia	491.9	123.22	43	6.97	47
Washington	604.8	214.24	7	9.51	15
West Virginia	239.0	121.63	47	7.83	37
Wisconsin	787.5	196.38	16	9.54	14
Wyoming	71.4	223.82	5	10.10	9

Source:

U. S. Department of Commerce, Bureau of the Census. "Governmental Finances in 1959." G-GF59-No. 2. Washington, D. C.: the Bureau, September 30, 1960. 37 p.

STATE-LOCAL TAX DOLLAR
Sources of state-local tax income, 1959

NEA Research Division

simple measure of the comparative efforts of states to finance state and local governmental services. In 1959, state-local tax collections amounted to an average of $8.49 for each $100 of personal income. Among the states the figures ranged from a high of $12.28 in South Dakota to a low of $6.08 in Alaska. If all states had raised state and local taxes in the same proportion to their personal income as in South Dakota, the total state-local collections would have been $46.8 billion instead of $32.4 billion. If all states had maintained the percent of Alaska, the total would have been $23.2 billion instead of $32.4 billion. In nine states the collections amounted to $10 or more out of every $100 of personal income. These states are South Dakota, North Dakota, Vermont, Louisiana, Montana, Kansas, Mississippi, Minnesota, and Wyoming. State and local taxes were less than $7.50 per $100 of personal income in the District of Columbia and eight states —Alaska, Delaware, Missouri, Virginia, Illinois, Connecticut, Ohio, and Pennsylvania.

Because of a high level of personal income, some states are able to collect taxes which appear high when measured on a per-capita basis but are low when measured in relation to ability to pay. For example, Connecticut in 1959 ranked thirteenth in terms of per-capita state and local tax collections, but forty-fourth in terms of collections per $100 of personal income. A few states ranked high on both counts. Five states—Wyoming, Colorado, Kansas, Vermont, and Montana—were among the top 10 in per-capita tax collections and were also among the top 10 in tax collections per $100 of personal income.

Of the 10 states lowest in per-capita tax collections, nine were also in the lower half of the states in terms of collections per $100 of personal income. Mississippi was the exception. Mississippi ranked forty-fourth in per-capita tax collections, but was the seventh state in collections per $100 of personal income. Only two states, Virginia and Kentucky, were in the bottom 10 states in both per-capita tax collections and collections per $100 of personal income.

It Pays To Go To School

Every year of schooling pays dividends in earned income

THE WELL-EDUCATED WORKER enjoys measurable advantages over the worker with little formal education. He earns more; he suffers less from unemployment; he is more likely to find work in high prestige occupations. Annual data of the U. S. Bureau of the Census and the Bureau of Labor Statistics on income of families and workers demonstrate these advantages of the educated worker.

In 1958, the median money income of all 44 million families in the United States was $5087. Almost one-quarter of the families had incomes of less than $3000; almost half of the families had incomes of less than $5000; almost 4 families in 10 had incomes of $5000 to $10,000. Incomes of $10,000 and over were reported by one family in 10.

The education of the head of the family reflects the family's chances of reaching a high-income bracket. More than one-fourth of the families headed by a person with some college training were in the $10,000-and-over income bracket, but only one-tenth of the families whose head was only a high-school graduate, and one-twentieth of the families whose head was only an elementary-school graduate.

The median income of families headed by persons with four or more years of college was $8143. This amount is 44 percent more than the median income of $5667 for families headed by persons with only a high-school education, and 86 percent more than the median income of $4386 for families headed by persons with only an elementary-school education. (See graph.)

Income varies with age, race, sex, residence, and other characteristics. But

1—INCOME RISES WITH YEARS OF SCHOOLING

Years of school completed by persons 14 years of age or more	Men		Women	
	Median income, 1958	Index	Median income, 1958	Index
All income recipients	$3,742	100	$1,176	100
Less than 8 years	1,905	51	711	60
8 years only	3,214	86	909	77
1–3 years of high school	3,594	96	867	74
4 years of high school	4,548	122	2,036	173
1–3 years of college	4,924	132	1,865	159
4 years of college	6,374	170	2,903	247
5 or more years of college	6,926	185	4,381	373

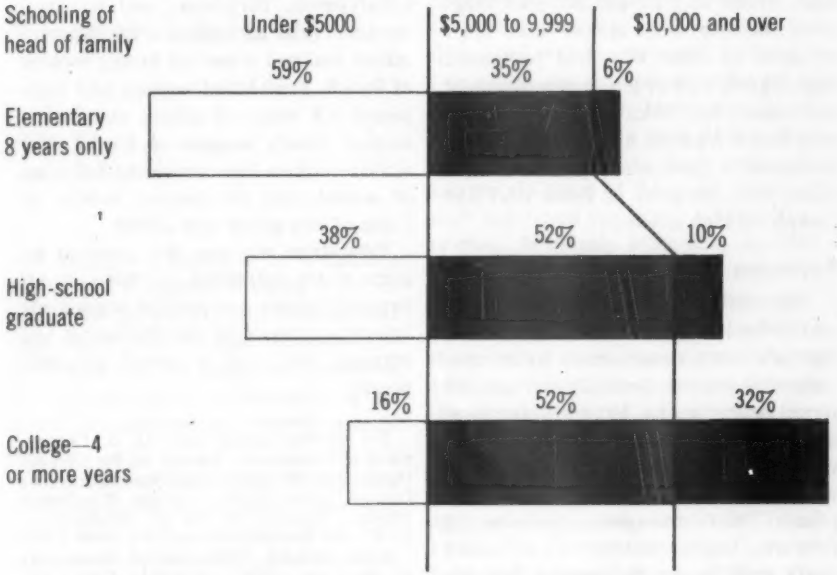
Source:

U. S. Department of Commerce, Bureau of the Census. "Income of Families and Persons in the United States: 1958." Current Population Reports, Series P-60, No. 33. Washington, D. C.: the Bureau, January 15, 1960. Table 26, p. 38.

Indexes were computed by the NEA Research Division.

FAMILY INCOME REFLECTS EDUCATION

Percent distribution of families by money income



Based on data in: U. S. Department of Commerce, Bureau of the Census. "Income of Families and Persons in the United States: 1958." Current Population Reports, Series P-60, No. 33. Washington, D. C.: the Bureau, January 15, 1960. Table 8, p. 24.

NEA Research Division

within each of the classifications of income recipients, the median income usually increases with each step of educational attainment. The median money income in 1958 was $3214 for men 14 years of age and over with only an elementary-school education, $4548 for men with only four years of high school, $6374 for men with four years of college, and $6926 for men with five or more years of college. The median income was $909 for women 14 years of age and over with only an elementary-school education, $2036 for women with only four years of high school, $2903 for women with four years of college, and $4381 for women with five or more years of college.

The proportional difference between the incomes of men and women lessens as the comparison extends to each successive level of education. Women with only an elementary-school education had a median income of just 28 percent of the median income of the comparable group of men. Women with five years or more of college had a median income 63 percent of that of men with comparable educations.

Education and Unemployment

Unemployment of workers is closely related to the amount of education the workers have had. The relationship is, of course, inverse. In March 1959, 8.5 percent of the workers in the labor force with less than high-school graduation were unemployed, compared with 4.8 percent of the high-school graduates and 2.4 percent of workers with some college experience. About half of the men workers in the labor force 25 to

54 years of age have completed high school. The men who had not completed high school had an incidence of long-term unemployment almost three times as great as those who had completed high school, a short-term unemployment rate more than twice as great as those who had completed high school, and an incidence of involuntary part-time work three times as great as those who had completed high school.

Education and Occupation

Educated workers not only earn more and suffer less loss from unemployment, they also have easier access to occupations that are economically and socially more desirable. In 1959, professional and technical workers had completed an average of 16.2 school years and had an average family income of $7788. Proprietors and managers, exclusive of farmers, had completed 12.4 school years and the family income for this group was $7012. Clerical and sales workers had completed 12.5 years of school: the median family income of clerical workers was $5692; that of sales workers was $6268. Skilled workers (craftsmen, foremen, and kindred workers) had completed 11.0 years of school and had a median family income of $6018. Semiskilled workers had completed 9.9 years of school and had a median family income of $5157. Unskilled workers had completed 8.6 years of school, and the median family income of this group was $4089.

Education increases the personal income of the individual. Increases in our national income and product register the collective impact of the producing and earning ability of a better educated people.

For further details see: U. S. Department of Commerce. Bureau of the Census. *Income of Families and Persons in the United States: 1958.* Current Population Reports, Series P-60, No. 33. Washington, D. C.: the Bureau, January 15, 1960. 51 p.

Katz, Arnold. "Educational Attainment of Workers, 1959." *Monthly Labor Review* 83: 113-22; February 1960.

U. S. Department of Labor. *Manpower Challenge of the 1960s.* Washington, D. C.: the Department, 1960. 36 p.

READING, WRITING AND RETAILING

OF ALL THE SOCIAL FORCES that are reshaping the market place, few are of larger consequence than the rising educational level of the consumer. At the start of the past decade, barely a third of the adult population had completed high school; at the end of the present one, more than half will have done so. By 1970, according to Department of Commerce projections, over 70 million consumers will have secured a secondary school diploma, and of that number about 25 million will have had some exposure to college.

Thus, in the course of the next ten years, persons who have completed high school study will become almost two-fifths more numerous. Since better learning and better income go together, we have in the making a sizable alteration in the entire business of marketing.

—Linden, Fabian. "Reading, Writing and Retailing." *Business Record* 17: 35; October 1960. Reproduced by permission of National Industrial Conference Board.

State Law and Teachers' Salaries

17 states step up required minimum salaries

FOR ALMOST A QUARTER of a century the NEA Research Division has reported on the growth and changes that have taken place in state minimum-salary legislation. Its latest survey covers the statutory salary requirements in effect at the start of the 1960-61 school year.

When the current school year opened, teachers in 34 states were employed under state minimum-salary laws. The number of states with such enactments has neither grown nor declined since 1957. A state-by-state listing of the type of salary requirement now in force is presented in Table 1. The laws of Hawaii and Puerto Rico have been omitted from the most recent survey. While teachers' salaries in these areas are fixed by legislative action, the statutory provisions are outside the scope of minimum-salary regulation since the legal schedules provide uniform rather than minimum-salary scales for teachers.

The salary laws establish the minimum amounts local units must pay to classroom teachers and other professional personnel whose positions may be covered in the statutory provisions. Clearly the prescribed state salary requirements are no impediment to the payment of higher teachers' salaries by local school districts. Expressly or impliedly, the statutory language in minimum-salary laws leaves local communities free to use the mandatory minimum standard as a take-off point to improve the salaries of their teaching staffs.

Minimum-salary laws are most effective when state legislatures are responsive to the need for adequate pay scales for teachers, and authorize frequent and realistic revisions. In the past two years, the governing bodies of all states met, either in biennial or in annual sessions. Many had before them proposals for raising legal minimum salaries. In some of the states where no such legislation yet exists, notably Connecticut, Michigan, Minnesota, and Nebraska, bills setting minimum salaries were introduced without success.

In all, 17 of the 34 minimum-salary states raised their requirements during 1959 and 1960. Most of the states in this group also had revised their laws in the two years immediately preceding, but for Wisconsin it was the first revision in six years. Eleven other states updated their provisions in 1957 and 1958. This leaves the salary laws of Louisiana, Pennsylvania, and West Virginia unrevised since 1956, and obsolete provisions in three states—Iowa, North Dakota, and Washington—where no legislative changes have been made in at least 10 years.

Present Minimum Salaries

The very heart of state minimum-salary legislation is the provision fixing the minimum amounts of salaries to be paid. The most recent salary figures for the 34 minimum-salary states show that despite upward revisions over the past few years, the legal minimum salaries specified for both beginning and experienced teachers are still low on the whole. Nevertheless, in some states, recent legislative changes indicate an encouraging tendency toward improving minimum-salary standards.

Even where the mandated salaries in and of themselves appear to be inadequate as standards, their effect on teachers' salaries at the local level should not be overlooked. Since in a

number of states the cost of the prescribed minimum salaries is a basic element in computing the amount of state funds allocable to local school districts through state foundation programs, an increase in legal salary requirements results in an over-all improvement in the compensation for teachers.

Here are some of the advances made in minimum salaries over the past two years:

- At the start of 1960-61, seven of the 34 states required local school boards to pay minimum annual salaries of $4000 or more to beginning teachers with *bachelor's degrees*. Two years ago, only three states required as much. The median prescribed salary in the 34 states increased from $3000 to $3390.
- Mandated minimums for beginning teachers with *master's degrees* now range from $4000 to $5000 in 10 states, as compared with six states on September 1, 1958. For teachers at this preparation level, the median salary requirement for 1960-61 rose by more than $300, to $3528.
- Ten of the 22 states operating under statutory minimum-salary schedules which require increments for teachers with experience assure minimum salaries of $5000 or more to *bachelor's degree* teachers who are entitled to the maximum amount provided for in the statutory schedule. The median of the minimum salaries for experienced teachers in this classification is now $4590, up $340 over 1958-59. Alaska, Delaware, and Rhode Island are leading, with minimum salaries fixed by law reaching the $6000 mark for experienced teachers with bachelor's degrees.
- Prescribed minimum salaries of at least $6000 currently prevail in five

1—STATE MINIMUM-SALARY REQUIREMENTS FOR TEACHERS, CLASSIFIED BY TYPE [a]

22 states—Schedule, with preparation and experience recognized:

Alaska	New York[b]
Delaware	North Carolina
Florida[b]	Oklahoma
Georgia	Pennsylvania
Idaho	Rhode Island[b]
Indiana	South Carolina
Louisiana	Tennessee
Maine	Texas
Maryland	Vermont[b]
Mississippi	Virginia
New Jersey	West Virginia

10 states—Two or more flat rates, with no credit for experience:

Arkansas	Kentucky
California	North Dakota
Colorado	Ohio
Illinois	Oregon
Iowa	Wisconsin

2 states—Single flat rate:

Massachusetts
Washington

15 states—No minimum-salary requirement in effect:

Alabama
Arizona
Connecticut
Kansas
Michigan
Minnesota
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Mexico
South Dakota
Utah
Wyoming

[a] Hawaii and Puerto Rico are omitted. The statutory schedules in these areas fix uniform rather than minimum-salary scales.

[b] These states have partial schedules. The minimum amounts required to be paid to experienced teachers are stated, but either the number or the amounts of increments are not specified in the statutes.

2—LEGAL MINIMUM SALARIES FOR BEGINNING TEACHERS, 1960-61

Bachelor's degree			Master's degree		
State and salary range	Minimum salary	Increase over 1958–59	State and salary range	Minimum salary	Increase over 1958–59
$4,000–4,999			$4,000–4,999		
Alaska	$4,650	....	Alaska	$4,800	....
California	4,500	$ 300	Delaware[a]	4,600	$600
Delaware[a]	4,200	600	California[b]	4,500	300
Massachusetts	4,000	400	New York	4,300	....
New York	4,000	....	Ohio	4,100	700
Rhode Island	4,000	800	Massachusetts[b]	4,000	400
Wisconsin	4,000	1,400	New Jersey	4,000	....
			Oregon	4,000	....
$3,000–3,999			Rhode Island[b]	4,000	800
New Jersey	3,800	....	Wisconsin[b]	4,000	1,400
Ohio	3,700	700			
Oregon	3,700	....	$3,000–3,999		
Indiana	3,600	873	Kentucky[a]	3,870	990
Kentucky[a]	3,600	990	Indiana	3,800	1,073
Oklahoma[a]	3,600	600	Oklahoma[a]	3,800	600
Pennsylvania	3,600	....	Vermont	3,700	....
Illinois	3,400	....	Illinois	3,600	....
Louisiana	3,400	....	Louisiana	3,600	....
Vermont	3,400	....	Pennsylvania	3,600	....
Colorado	3,380	....	Florida	3,465	....
Texas	3,204	....	Texas	3,429	....
Maryland	3,200	....	Georgia	3,400	100
Georgia	3,100	100	Colorado[b]	3,380	....
Florida	3,060	....	North Carolina	3,340	163
Maine	3,000	....	Maine	3,200	....
Virginia[a]	3,000	350	Maryland[b]	3,200	....
			Mississippi	3,175	300
$2,000–2,999			West Virginia	3,060	....
North Carolina	2,946	147	Arkansas	3,000	....
Mississippi	2,900	250	Virginia[a b]	3,000	350
West Virginia	2,790	....			
Arkansas	2,700	....	$2,000–2,999		
Tennessee	2,650	200	Tennessee	2,920	200
Washington	2,400	....	Idaho	2,570	70
Idaho	2,370	70	South Carolina	2,511	243
			Washington[b]	2,400	....
Under $2,000					
North Dakota	1,350	....	Under $2,000		
South Carolina	1,251	144	North Dakota[b]	1,350	....
Iowa	810	....	Iowa[b]	810	....

[a] Adopted salary, not fully in effect in the 1960–61 school year.

[b] No separate minimum salary is provided for the master's degree. The beginning salary for the bachelor's degree is shown.

states for *master's degree* teachers with maximum experience credit; only three states reached this level in 1958-59. But the advance in the median salary for this group is not as marked as is that for the beginning teacher with comparable education. The median stands at $4917 today as compared with $4750 two years ago.

- Delaware and Indiana during the past two years decreased the number of required increments in their statutory schedules, but no other states followed suit.

The 1960-61 minimum salaries for beginning classroom teachers in each state at two levels of preparation appear in Table 2.

Recent Developments

Aside from the increases in the state salary requirements already noted, few material changes were enacted in recent years with respect to other provisions in the minimum-salary laws. Two legislative developments, however, should be emphasized.

One is the lengthening of the school year in conjunction with the raising of minimum salaries. Kentucky and North Carolina added several days to the previously designated minimum terms. A more striking change occurred in Mississippi. During the 1958 legislative year, when the legislature increased the state minimum annual salaries, the new amounts were specified to be for a minimum school year of 35 weeks, four weeks longer than theretofore. To be noted also is the definition of *school term* as 10 calendar months for the purpose of the minimum-salary schedule included in Rhode Island's new foundation law adopted in April 1960.

Another unusual development is the introduction of "merit" increases or increments into two state minimum-salary laws, mandatory in one state, permissive in the other. Florida enacted a provision in 1957 directing each county to award special career increments to teachers with continuing contract status for "exceptionally meritorious teaching ability and service to school and community" after 10 years of continuous service. The local plans effectuating this provision require the approval of the state board of education.

The new merit feature in the Maryland law is in a different context. The 1960 legislature amended the state minimum-salary law to provide for an increase of $300 over the compensation which teachers with 10 years or more of experience received at their respective levels in November 1959. Under the new provision, this increase must be given to all teachers with this amount of experience who are employed in counties where the actual highest maximum annual salary for teachers at any level of preparation was below $7300 during November 1959. However, in those counties where the actual maximum pay for teachers at any recognized level of preparation was $7300 or over, the school boards are not obligated to pay the aforementioned increase directly to any of their teachers, if they exercise either of two options contained in the law. One permits such counties to pay the $300 salary increase to teachers under a merit plan; the other permits them to apply the $300 to pay teachers for extra services.

Increasing teachers' salaries is a major goal in the legislative programs of the state education associations. The upgrading of state minimum-salary requirements is attributable in very large measure to the vigorous efforts of these groups.

For details see: National Education Association, Research Division. *State Minimum-Salary Laws and Goal Schedules for Teachers, 1960-61.* Public-School Salaries Series. Research Report 1960-R13. Washington, D. C.: the Association, November 1960. 44 p. 50¢.

Top salaries for principals in big cities approach $12,000

Maximum Salaries for School Administrators

THE NEA RESEARCH DIVISION has received administrative salary schedules for 1960-61 from 105 of the 173 urban school districts 100,000 and over in population. These 105 schedules represent about 70 percent of the 150 districts that sent copies of their schedules for classroom teachers.

The 105 districts were divided into two population groups: Group I, population 500,000 and over (all 26 districts reported); Group II, population 100,000 to 499,999 (79 districts out of 147 returned administrative salary schedules).[1]

Among the findings of this study are these:

- About 73 percent of the school districts in Group I and about 86 percent of the school districts in Group II have salary schedules for principals based on grade level, that is, higher salaries for secondary- than for elementary-school principals.
- About 81 percent of the Group I districts and about 42 percent of the Group II districts have independent administrative schedules, that is, salary schedules for principals that provide minimums, increments, and maximums having no relationship to classroom teachers' schedules.
- For the most part the administrator receives a higher maximum salary in Group I districts than he would in a comparable position in the Group II districts.
- Medians of the highest maximum salaries for elementary-school principals are $10,488 in Group I districts and $9750 in Group II districts.
- For senior high-school principals, median maximums are $11,593 in Group I districts and $11,373 in Group II districts.

Grade-Level Distinctions

Single-salary schedules for elementary-school and high-school principals are still rare. About 27 percent of the Group I districts and 14 percent of the Group II districts, have schedules in which salaries and length of the work year for principals in elementary and secondary schools of similar size appear to be the same.

Since about 73 percent of the Group I districts and about 86 percent of the Group II districts have schedules based on grade level, and since differentials based on length of work year and size of school are in favor of the secondary-school principals, higher salaries for them are to be expected. The median of the scheduled maximum salaries for senior high-school principals is above that scheduled for elementary-school supervising principals by about 11 percent in Group I and by about 17 percent in Group II.

[1] Later summarizing reports will include school districts to be added to Groups I and II on the basis of the 1960 Census.

Independent Schedules vs. Differentials

The independent administrative salary schedule is still the most common type of salary schedule in these two groups of large districts, but other types are appearing. Table 1 shows the percents of independent and of differential schedules in 1959-60 and in 1960-61.

In the Group I districts, 81 percent had principals' schedules that provide minimums, increments, and maximums independent of classroom teachers' schedules. Independent administrative schedules were found in 42 percent of the Group II districts.

The practice of building the administrative schedule by adding a differential or supplement to the classroom teachers' schedule has appeared in recent years. Part of a principal's salary is the amount he would earn if he were a classroom teacher; the remainder is a differential in recognition of his responsibilities and, in some cases, his longer work year as an administrator.

In a dollar-differential schedule, principals receive *fixed sums of money* above the salaries they would receive as teachers. For example, if the teacher's maximum salary is $10,000 and the administrators' salary schedule states that the differentials are $2000 for elementary-school supervising principals and $3000 for senior high-school principals, the maximum salaries would be $12,000 for elementary-school supervising principals and $13,000 for senior high-school principals.

In a ratio-differential schedule, principals receive *percentages* above the salaries they would receive as teachers. If the teacher's maximum salary is $10,000 and the administrators' salary schedule states that the elementary-school supervising principal and the senior high-school principal receive, respectively, 125 percent and 140 percent of the salary they would receive as teachers, the elementary-school supervising principal's salary would be $12,500 and the senior high-school principal's salary would be $14,000.

Other variations of differential schedules are: (a) a schedule providing a dollar differential above the teachers' salary schedule and also a ratio differential over and above the dollar differential, and (b) a schedule providing a basic dollar differential and also a ratio differential based on the teachers' annual increment. The ratio of difference in some schedules may apply to any step that the principal would have reached on the teachers' schedule, but in others, only the maximum of the teachers' schedule is used as a basis for computing the administrative salary. There are still other patterns.

Salaries of Other Administrators

Although school districts are more likely to have salary schedules for principals than for other administrators

1—PERCENT OF DISTRICTS BY TYPE OF SALARY SCHEDULE FOR ADMINISTRATORS, 1959-60 AND 1960-61

Type of schedule	Group I		Group II	
	1959-60	1960-61	1959-60	1960-61
Independent administrative schedule	88.5%	80.8%	53.2%	42.3%
Dollar-differential schedule	7.7	3.8	20.7	20.5
Ratio-differential schedule	3.8	11.6	26.1	34.6
Dollar and ratio-differential schedule	....	3.8	....	2.6
Number of schedules	26	26	92	78

2—MEDIANS OF MAXIMUM SALARIES SCHEDULED FOR TEACHERS AND ADMINISTRATORS WITH HIGHEST LEVEL OF PREPARATION RECOGNIZED, 1960-61

Position	Group I		Group II	
	Number of schedules	Median	Number of schedules	Median
Classroom teachers	26	$ 7,575	124	$ 7,605
Elementary school				
Supervising principals	26	10,488	71	9,750
Head teachers and teaching principals	10	8,050	12	8,300
Assistant principals	18	9,200	29	9,000
Junior high school				
Principals	23	11,000	54	10,371
Assistant principals	18	9,350	38	9,385
Senior high school				
Principals	26	11,593	71	11,373
Assistant principals	24	9,775	61	9,893
Heads of departments	8	9,050	23	9,000
Counselors	12	8,423	23	8,500
Deans	5	8,213	15	10,415
Central Office				
Supervisors	22	10,330	57	9,720
Consultants	4	[a]	19	9,825
Co-ordinators	13	10,320	33	9,500
Directors	23	12,500	53	11,640
Assistant superintendent, highest or only	18	16,250	32	14,805
Superintendent (schedule or actual salary)	20	25,000	72	19,082

[a] Fewer than five cases; no median shown.

many schedules do include such administrators as consultants, directors, and superintendents. Table 2 shows the classroom teachers' salary, the salaries of the administrators generally concerned with an individual school (principals, assistant principals, department heads, counselors, and deans), and also six positions generally considered central-staff administration (supervisors, consultants, co-ordinators, directors, assistant superintendents, and superintendents).

Although it is still true for a majority of administrative positions that the Group II districts on the average pay lower salaries than the Group I districts, salaries scheduled by the Group II districts increased at an over-all faster rate from 1959-60 to 1960-61. When one gives equal weight to each of the 15 different administrative positions reported for both groups, the median increases in maximum salaries from 1959-60 to 1960-61 were 5 percent in Group I and 6 percent in Group II. For several positions median maximum salaries in 1960-61 are even higher in Group II than in Group I.

For details see: National Education Association, Research Division. *Salary Schedule Maximums for School Administrators, 1960-61, Urban Districts 100,000 and Over in Population.* Research Report 1960-R14. Public-School Salaries Series. Washington, D. C.: the Association, November 1960. 47 p. 75¢.

Four one-teacher schools in 100 still in use were built before the Civil War

"Still sits the school house by the road"

A ONE-TEACHER SCHOOL was built in Massachusetts in the 1630's; the newest one is still under construction. Although many thousands of these schools have come and gone during the past three hundred years, several hundred built before the Civil War are still housing our youngsters today.

Age of These Schools

The nation is losing about 4000 one-teacher schools each year, but 23,695 were still in use in 1958-59. To provide education for children in isolated farm and mountain communities, many one-teacher schools will continue to operate for a long time to come. Every effort should be made to improve these one-teacher schools. While the Gross National Product in the second quarter of 1960 reached an annual rate of $500 billion, hundreds of thousands of American rural children were still receiving their education in unsanitary, ill-equipped, primitive one-teacher schools.

The typical one-teacher school building, still being used for its original purpose, was 43 years old in 1959, the time of the NEA Research Division survey.

Facilities are meager:

- 84 percent of the one-teacher schools were of wood frame construction.
- 68 percent had no inside toilet or running water in the building. Drinking water had to be obtained from a well, river, or spring, or from a neighbor's home.
- 23 percent had no electricity or lacked adequate electric fixtures.

A little over 50 percent of these schools were built between 1900 and 1929; about 39 percent, before 1910; about 23 percent, before 1900; 15 percent, before 1890; nearly 9 percent, before 1880; about 4 percent antedate the Civil War.

In four states more than 40 percent of the one-teacher schools are at least 50 years old: Michigan, 78.5 percent; Wisconsin, 55.5 percent; Missouri, 49.0 percent and Minnesota, 45.3 percent. As one would expect, only 3 to 4 percent of the one-teacher schools in these states are less than 10 years old.

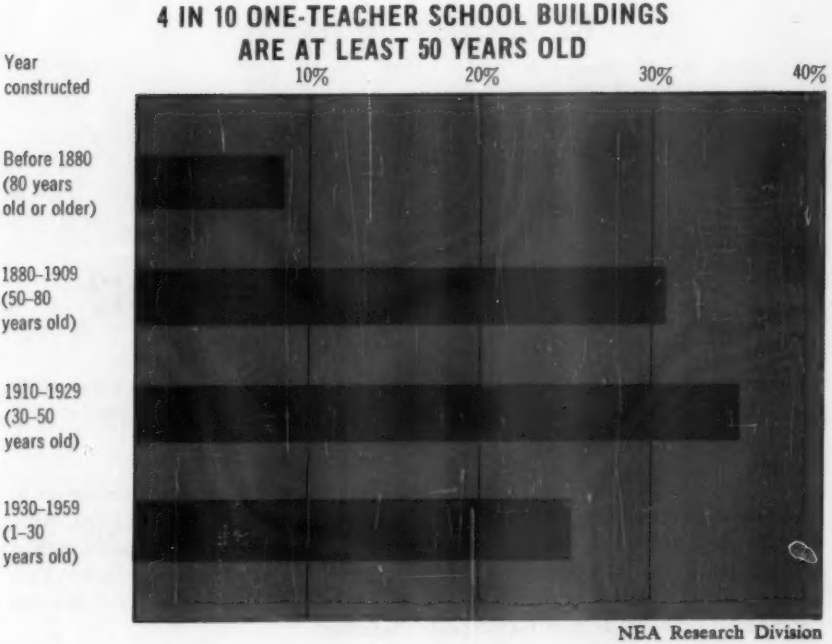
When Are Schools Old?

Few new one-teacher school buildings are being built today—only about 6 percent are less than 10 years old.

The U. S. Office of Education in its *School Facilities Survey* stated:

> It is probable that buildings more than 30 years old have reached a stage of obsolescence at which extensive maintenance and rehabilitation have become necessary if they are to continue in service. Buildings more than 50 years old have exceeded the number of years for which school plants are ordinarily expected to be used for educational purposes.

For the purpose of calculating depreciation of a building for federal income taxes, a building is expected to have a useful life of 25 to 50 years. According to these standards the typical one-



teacher school building is practically obsolete.

Teachers Make the Best of It

Although the survey revealed the obsolescence of school buildings and the general inadequacy of physical facilities, when the teachers were asked to describe the general condition of the building, 84 percent of the reporting teachers said that their buildings were generally satisfactory. Such comments as "We have a very well-equipped school, modern throughout" and "Our school room is very pleasant, roomy, and has plenty of windows" were more typical than the observation by one teacher who said, "I think it is a shame that boys and girls of this day and age have to attend a school such as this."

For details on the entire survey of one-teacher schools see: National Education Association, Research Division. *One-Teacher Schools Today*. Research Monograph 1960-M1. Washington, D. C.: the Association, June 1960. 75 p. $1.25.

On What Is Promotion Based?

Academic standards, achievement, chronological age - - -

VARIATIONS in promotion policies in elementary schools were surveyed in a recent NEA Research Division study of administrative practices in urban school districts in 1958-59. It was found that promotion based on meeting academic standards alone has almost disappeared. In most districts, pupils are considered individually, the decision being based on their special needs, ability, and welfare.

Academic Achievement

Promotion policies have evolved in response to increased knowledge of child development, both mental and social. It is therefore widely believed that academic achievement alone cannot be the sole criterion in deciding whether the individual child would fare better by being kept back for another year's work in the same grade or by being advanced with his age mates.

In the elementary school (the only level for which information on this subject was requested), promotion based exclusively upon meeting academic standards has dwindled away almost completely. In fact, in less than 1 percent of the school districts having elementary grades is promotion based upon academic achievement alone, without any regard for other factors.

Chronological Age

At the other extreme, promotion in step only with chronological age, without regard for academic performance, finds almost as little favor. In less than 2 percent of the districts is this practice followed.

Almost all districts, therefore, have in effect some practice lying between these two extremes. Four-fifths of all districts with elementary grades base promotion on an individual study of each pupil, taking into consideration all factors which may operate for his best interests. These would include, of course, social and emotional considerations, as well as purely academic ones.

Retardation

In contrast with this most widespread practice, about 18 percent of the districts base promotion on meeting definite academic standards, with the provision that no pupil is to be held back more than a certain number of years. In most cases (15 percent out of the 18 percent), this period is two years. It is only one year in 2.8 percent of the districts and in only 0.2 percent of the districts is the figure set at three years.

No differences in the pattern are discernible among the districts of the various sizes.

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